Pre-Calculus Name:

Given the measurement of a central angle, find the length of its intercepted arc in a circle of a radius of 14 centimeters. Round answers to the nearest tenth.

1. $\frac{2\pi}{3}$ =

$S = 29.32\text{cm}$

2. $\frac{5\pi}{12}$

3. $\frac{3\pi}{11}$

11.99 cm

4. $\frac{5\pi}{6}$

5. 150°

6. 282°

68.9 cm

7. 320°

8. 77°

18.81 cm

9. The diameter of a circle is 22 inches. If a central angle measures 78°, find the length of the intercepted arc.

$r = 11$ $\frac{78\pi}{180}$ R- $S = 14.97$ in

10. An arc is 70.7 meters long and is intercepted by a central angle $\frac{5\pi}{4}$ radians. Find the diameter of the circle.

$S = 70.7$ m $\theta = \frac{5\pi}{4}$ $r = ?$

$r = 18\text{m}$ $d = 36\text{m}$

$\times 2$

11. An arc is 14.2 centimeters long and is intercepted by a central angle of 60°, what is the radius of the circle?

$S = 14.2\text{cm}$ $\frac{60^{\circ}\pi}{180^{\circ}} = \frac{\pi}{3}$ $r = 14.87$